

**REMARKS**

**I. Status of the Claims**

No claims have been amended in this paper. There is no issue of new matter.

Upon entry of this paper, claims 85-88, 90, 93, 95-100, 104-116, 135-137, and 141-175 are pending and subject to examination.

The Office is silent on the previous the requirement to either cancel the conflicting claims between the instant application and copending Application Nos. 10/528,698, 10/529,265, 10/529,267, and 11/086,906, from all but one application, or maintain a line of demarcation between the applications. Applicants assume that the Office has withdrawn that requirement. If that assumption is incorrect, Applicants request that the Office clarify the rejection as soon as possible so that Applicants may have an opportunity to respond.

**II. Claim rejections - 35 U.S.C. § 112**

**A. Second Paragraph**

Claims 85-88, 90, 93, 95-100, 104-116, 135-137, and 141-175 are rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. See Office Action at pages 2-3. Applicants respectfully disagree and traverse this rejection for at least the following reasons.

As an initial matter, Applicants have corrected the typographical error in the formula which the Office was concerned. Specifically, the formula has been amended as follows:

$$\frac{1/T_g = \sum_i (\varpi_i/T_{g_i})}{\left[ \frac{1}{T_g} = \sum_i \frac{\varpi_i}{T_{g_i}} \right]}$$

The formula, as amended, more accurately conveys that the theoretical  $T_g$  of a block is determined from the theoretical  $T_{g_i}(s)$  of its constituent monomer(s).

As indicated in the previous response, the  $T_g$  value of a block referred to in the instant application is a **theoretical**  $T_g$  value determined by Fox's law:

$$\frac{1}{T_g} = \sum_i \frac{\varpi_i}{T_{g_i}}$$

See lines 1-14 at page 14 of the specification as filed. As such, in the instant application, the  $T_g$  value of a block depends only on the mass fraction ( $\varpi_i$ ) of its constituent monomer  $i$  and the **theoretical** glass transition temperature ( $T_{g_i}$ ) of the homopolymer formed by the constituent monomer  $i$ . An artisan only needs to calculate the individual weight percentage of a monomer to be used in a block so as to obtain the desired theoretical  $T_g$ .

Contrary to the Office's statement that "the artisan would not know what the  $T_g$  of a hypothetical homopolymer of one or more of the constituent monomers of the blocks are," the value of the **theoretical**  $T_{g_i}$  of a homopolymer formed by monomer  $i$  can be found in the literature, such as Polymer Handbook, 3<sup>rd</sup> Edition, 1989, John Wiley. As

such, for each monomer  $i$ ,  $Tg_i$  is a fixed value which does not depend on the molecular weight, how the polymer was made, or how the  $Tg_i$  was measured.

In addition, Cortazar, which the Office relied upon for this rejection, uses the Fox equation and other theoretical equation for predicting the experimental  $Tg$  values. See Summary. Cortazar does not teach that Fox equation cannot be used for calculating theoretical  $Tg$ s using individual  $Tg_i$  of the constituent monomer. Cortazar thus bears no weight in this rejection.

For the record, Cortazar does not show Fox's equation is only accurate when  $Tg_1$  is approximately equal to  $Tg_2$ . Cortazar does not make that statement. Indeed, Cortazar only indicates that when  $Tg_1$  is approximately equal to  $Tg_2$ , one theoretical equation (Couchman-Karasz) may be transformed to the Fox equation. Cortazar further indicates that the Fox equation best agrees with the experimental data. See lines 15-17 at page 152.

As such, the claims are not indefinite. Applicants respectfully requests that the rejection be withdrawn.

**B. First Paragraph**

Claims 85-88, 90, 93, 95-100, 104-116, 135-137, and 141-175 are rejected under 35 U.S.C. § 112, first paragraph, as allegedly failing to comply with the enablement requirement. The Office states that the rejection is maintained for reasons of record. See Office Action at page 4. Applicants respectfully disagree and traverse this rejection.

In the Response to Arguments, the Office argues that Applicants have provided no evidence that the  $Tg$ s of homopolymers of constituent monomers are readily available. As discussed in the previous section, the  $Tg$ s of homopolymers are fixed

theoretical values which can be found in the literature, such as Polymer Handbook, 3<sup>rd</sup> Edition, 1989, John Wiley. They thus do not depend on the molecular weight of the homopolymer, how they are processed, or other factors. Accordingly, Cortazar, Nojiri and Erichsen do not apply with respect to theoretical Tgs of the homopolymer in the instant case, as those references discuss experimental values of the Tgs of polymers.

Applicants maintains that the specification provides ample guidance for a skilled artisan to practice the invention without undue experimentation. Applicants respectfully requests that the rejection be withdrawn.

**III. Information Disclosure Statement**

In the previous response, Applicants respectfully requested that the Office consider and initial Foreign Patent Document Nos. 155-160, and 216 cited on the SB/08 form submitted September 14, 2009. Regarding Foreign Document No 216 cited on the same SB/08, Applicants further clarified that it is the WO document instead of the EP document. This Office Action is silent on whether the Office has considered those references. Applicants hereby respectfully repeat that request.

**CONCLUSION**


In view of the foregoing remarks, Applicants respectfully request reconsideration of this application, and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge  
any additional required fees to Deposit Account No. 06-0916.

Respectfully submitted,

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